



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Applicant:	§	
	§	
Pinchas SHALEV et al.	§	
	§	
Serial No.: 10/535,536	§	
	§	
Filed: May 18, 2005	§	Group Art Unit: 3742
	§	
For: ELECTRIC SHAVER WITH HEATED	§	
CUTTING ELEMENT AND WITH	§	
DEODORANT DISPENSER	§	Attorney
	§	Docket: 35746
Examiner: Stephen J. RALIS	§	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF IN RESPONSE TO EXAMINER'S ANSWER

Sir:

Further to Examiners' response, issued on September 29, 2008, to the appeal brief filed on July 10, 2008, the appellant files the following remarks:

REMARKS

Further to Examiner's Answer issued on September 29, 2008 in response to the appeal brief filed by the appellant on July 10, 2008, appealing the Final Rejection of January 2, 2008 and further to the Advisory Action of May 21, 2008, the appellant refers to the following rejections raised by the Examiner. For ease of reference, appellant uses the same numbering used in the Appeal Brief and in the Examiner's Answer.

A. GROUND OF REJECTION 1 (CLAIMS 7, 10, 11, 13, 15 AND 17)

Claims 7, 10, 11, 13, 15 and 17 stand rejected under 35 U.S.C. §102(b) as anticipated by Kelman (WO Publication No. 92/16338). Claims 7 and 11 are the only independent claims in this group of claims.

A1. Claim 7 distinguishes over the cited reference

Claim 7 recites a hair cutting apparatus comprising "a heated elongate element heated to a temperature sufficient to cut hair, mounted on the structure". The Examiner rejects claim 7 over Kelman and argues that Kelman teaches the heated elongate element recited in the claim by a laser beam. According to the Examiner, since the laser beam is not carbonizing by a chemical process or by fossilization, energy is transferred into heat sufficient to cut hair (page 10 of the Examiner's Answer).

The Examiner further argues that the density of air surrounding the laser beam is heated due to particle collision with air and therefore the laser beam would be hot comparing to the air surrounding the device. In order to meet the claim requirement of "heated to a temperature sufficient to cut hair", the Examiner raises an argument according to which the laser beam, with its inclusive surrounding air, heats the surrounding air to a temperature sufficient to cut hair as a part of the laser beam passes through the hair and impacts the users face or the hair would not be cut (page 11).

Appellants respectfully disagree with the rejection and submit that it is based on an incorrect understanding of the basic principals of lasers and of energy transfer. In his rejection, the Examiner starts with an incorrect premise, carries this incorrect premise to incorrect steps which lead to an incorrect and irrational conclusion.

The Examiner first erred in his premise according to which an object can be

heated only by chemical process of fossilization or by transfer of heat *from a heated object*. This is incorrect as an object can be heated by a laser by absorption of electromagnetic energy. A laser transfers energy to an object by absorption of the electromagnetic energy, this energy raises the temperature of the object without the surrounding air being substantially heated by the electromagnetic energy carried by the beam. Appellants have brought this incorrect premise to the Examiner's attention during an interview and in their appeal brief. However the Examiner continues to assert this error which leads to an irrational conclusion according to which a laser beam must be hot or at least that it must heat air in order to heat the object.

Referring to the Examiner's arguments, even agreeing *arguendo* with the Examiner that the air surrounding the laser beam is heated to a certain extent, it goes against the fundamentals of laser transmission in air to state that the air would be heated to a temperature sufficient to cut hair just because the hair absorbing the energy is in fact cut. It is (or should be) clear to anyone with basic knowledge of laser physics that a laser beam, while carrying energy, does not have any temperature as that term is defined. Therefore a laser beam cannot, under any interpretation, be interpreted as a heated element. Laser beams are beams of electromagnetic energy which has no temperature but which energy can be absorbed by an object. It is this absorption of energy that heats the object. Appellants presented this argument at length in their appeal brief (pages 9-10).

Second, the Examiner is of the opinion that the air is heated to a temperature sufficient to cut the hair. While the interaction between the laser beam and air is very low, so that the air is hardly heated (otherwise the beam would be severely attenuated and would not be able to travel long distances in air, as every person of the art knows it can). But even assuming that the air is severely heated as the Examiner suggests, it would still not be possible to cut hair with the air. The reason for this is that air has a very low heat capacity. Just as the wire of the present invention cuts hair and does not damage the skin because the skin has a high heat capacity and the heat transferred (even from a very hot wire) causes only a small rise in temperature to the skin, so the air, even if it were very hot (which it is not) would not cause the hair to be cut.

The Examiner also stated that "temperature sufficient to cut hair" is a broad limitation since there are many different kinds of hair to be cut requiring many different temperatures in which the laser beam and its inclusive surrounding air may encompass.

Appellants respectfully disagree and submit that the Examiner's argument is unspecific and far from anticipating the claim. In order to know if a certain temperature meets the limitation of "temperature sufficient to cut hair", there has to be some teaching that the air surrounding a laser beam for cutting the hair is hot and that it is hot enough to cut the hair. The examiner has provided no proof that the air is hot and no proof that the temperature of the hair is sufficient to cut any type of hair. This is so because simply, there does not exist any type of hair that would be cut at the temperature of the air surrounding the laser beam. All the Examiner has provided is an untenable theory without any theoretical basis.

The entire field of laser transmission is based on the fact that lasers hardly react with air through which they travel and can travel for many miles in air without large attenuation. The Examiner is ignoring this well known fact in postulating a heat transfer regime which has no basis in fact.

Appellants have also argued that a laser beam is not a heated element since a laser beam is not present when unheated. The Examiner responded that the feature of the heated element being present when unheated is not recited in the claim (page 12). Appellants respectfully disagree. The following is a definition of "heated" from Webster's Encyclopedic Unabridged Dictionary – "1. made hot or hotter; warmed. 2. excited; inflamed; vehement;"

It is evident that an element that is made hot or warmed, is present without being made hot or warmed, otherwise there would not be something to make it hot. Accordingly, the claim requires that the heated element be present without being heated and this is yet another reason why a laser beam is not a heated element as required by the claim. Appellants are aware that a laser beam is not generally considered to be an element of an apparatus. It is a result of operation of some other element (the source laser) and not an element on its own.

Furthermore, appellants argued in their appeal brief (page 8) that a laser beam does not meet the requirement of "mounted on the structure" of claim 7. The Examiner has not responded to this argument. Appellants restate that a laser is not mounted on anything and therefore Kelman fails to teach a heated element as required by the claim.

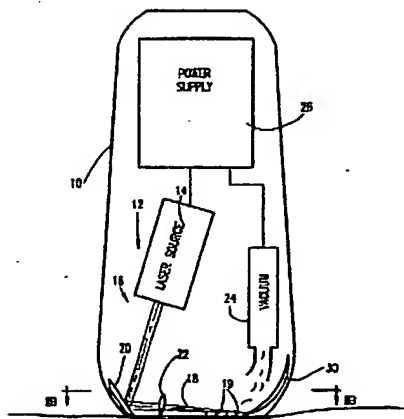
A2. Claim 11 distinguishes over cited reference

Appellants reiterate that claim 11 also "cutting hair with a heated elongate element" which is not taught by Kelman at least for the reasons stated above.

Appellants have also argued that Kelman fails to teach "collecting the hair cuttings from the skin of the user with an electrostatically charged element" since in Kelman the hair cuttings are never deposited on the skin of the user and can therefore not be collected from the skin. The Examiner asserts that the claim does not recite the hair cuttings being on the skin before collection.

Appellants respectfully disagree and submit that it is abundantly clear that if the hair *cuttings* are collected *from* the skin, they have to have been on the skin in the first place. The Examiner seems to interpret the recitation of "collecting the hair cuttings from the skin" as collecting the hair being *cut* from the skin rather than hair cuttings *collected* from the skin. As previously argued by appellants, if the claim would read "collecting hair *cut* from the skin" than the Examiner's argument might make sense. However, since the claim clearly states "collecting hair *cuttings* from the skin" it is clear that the clause "from the skin" refers to the verb "collecting" and not to hair cuttings. Similarly, the rest of the sentence recites "with an electrostatically charged element" and refers to how the cuttings are collected and not to the manner in which the hair was cut.

Kelman teaches collecting the hair with a vacuum apparatus 24 as shown in Fig. 2A of Kelman:



The Examiner contends that Kelman teaches an electrostatically charged element since the vacuum apparatus "may alternatively comprise any other suitable hair collecting apparatus such as electrostatic apparatus" as stated on page 6, line 27 of

Kelman. Appellants refuted the rejection and stated that the vacuum apparatus, replaced by an electrostatically charged apparatus or not, is positioned such that it collects the hair cuttings as they are cut, without being deposited on the skin. Due to the position of the collection apparatus, it is unable to collect cuttings from the skin.

The Examiner responds to this argument by stating that one cannot assume that the placement of an element in the exact same position as another apparatus is a prerequisite for functionality and that the test for obviousness is what the combined teaching would have suggested to those of ordinary skill in the art.

Appellants respectfully disagree and submit that the Examiner's arguments are hindsight. The question of obviousness is what the references would have suggested to a person of ordinary skill in the art *at the time of the invention*. The function of the vacuum apparatus in Kelman is to collect hair cuttings as they are cut. Thus, a person reading Kelman would have replaced the vacuum apparatus by an electrostatically charged element, without changing its function. Without knowledge of the claimed invention, a person of ordinary skill in the art wouldn't have thought to collect the cuttings after they are cut, when they are deposited on the skin. It is noted that it is much harder to collect the cuttings once they are on the skin than while they are in the air (as in the cited reference). Accordingly, the cited reference does not lead one of ordinary skill to the claimed invention.

B. GROUND OF REJECTION 2 (CLAIMS 9 AND 14)

Claims 9 and 14 stand rejected under 35 U.S.C. §103(a) as being obvious over Kelman in view of Iderosa (US Patent No. 5,065,515).

Claims 9 and 14 depend on claims 7 and 11 respectively and recite that the heated elongate element is a wire. Iderosa discloses a hair shaving device wherein the hair is pre-heated by a laser or by a metallic element before it is cut. According to the Examiner, it would be obvious to replace the laser beam of Kelman with the metallic element of Iderosa since Iderosa shows that the two are interchangeable.

Appellants respectfully disagree and submit that the combination would not result in the claimed invention as the metallic element of Iderosa is used for pre-heating the hair as opposed to cutting it. Appellants' arguments are presented in detail in the appeal brief, pages 12-14.

The Examiner replies and submits that he used the determination of obviousness as laid down in *Graham* and MPEP 2143 "Simple substitution of one known element for another to obtain predictable results" (pages 14-15). Appellants quote from said section of the MPEP:

"To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Then, Office personnel must articulate the following:

(1) a finding that the prior art contained a device (method, product, etc.) which differed from the claimed device by the substitution of some components (step, element, etc.) with other components;

(2) *a finding that the substituted components and their functions were known in the art;*

(3) a finding that one of ordinary skill in the art could have substituted one known element for another, and the results of the substitution would have been predictable; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness."

In order to put these tests into perspective one has to realize that in the present claims the hair is being cut by a heated elongate element while in *Iderosa* the hair is cut with a blade after being preheated with a laser or metallic element.

While the Examiner asserts that the substituted components and their functions were known in the art, appellants disagree. The use of a metallic element *for pre-heating hair* is known from *Iderosa*. Nowhere does *Iderosa* teach the use of a metallic heated element for *cutting* hair. In fact, while *Iderosa* device comprises a metallic heated element, it *does not use it for cutting the hair* but rather uses a blade to cut the hair. The reason for that is that the heating element of *Iderosa*, touching the skin and hair, would burn the skin if it were heated to a temperature sufficient to cut the hair. It is therefore heated to a lower temperature which is sufficient to pre-heat the hair but insufficient for cutting it. Thus, not only does *Iderosa* not teach the use of a heated element to cut hair, *Iderosa* in fact teaches against doing so as even though the element is present in his device, it is not used for this purpose.

Moreover, Kelman similarly mentions that care should be taken not to harm the skin. See page 2, fourth paragraph:

"In accordance with a preferred embodiment of the invention, the wavelength of the beam is such that it is generally not absorbed by human skin."

The Examiner indicates that the test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art. Further to the arguments above, appellants submit that not only would a person having ordinary skill in the art not use the metallic heated element of Iderosa to cut the skin, he would in fact avoid doing so since the references teach against it.

The suggested metallic element of Iderosa has the functionality of pre-heating. There is no hint in Kelman that a heated wire can be used to shave hair and no hint in Iderosa that the metallic element that replaces his laser and which touches the skin (!) can be replaced by a wire hot enough to cut hair.

It is reiterated that should a person of ordinary skill in the art add the metallic heated element of Iderosa to Kelman's device, the combined device would not result in the claimed invention. Iderosa's element would keep its functionality and be used for pre-heating the hair, while the hair would still be cut by Kelman's laser beam, or by Iderosa's blade.

Appellants also argued that Iderosa's metallic element is not a wire. The Examiner answered the argument and stated that Iderosa's element is made of an electrically resistive material and there is no recitation of any dimensions, size or heat capacity in the claim. Appellants respectfully disagree. As shown in Figs. 1-4 of Iderosa, the metallic element is a large element. It needs to be large enough to have a large enough heat capacity in order to transfer enough energy to the hair and to the skin which it touches. Therefore the metallic element of Iderosa could not be heated to a temperature that would cut hair without damaging the skin. Finally, Iderosa could not use a wire in his device since it is clear that a low temperature wire, with a low heat capacity, would not heat the hair sufficiently to perform the pre-heating function of the laser or metallic element he does use.

The Examiner is making a great leap in finding that a low temperature high heat capacity element used for preheating hair before cutting by a blade makes obvious the use of a heated wire, with an inherent low heat capacity, heated to a temperature high enough to cut hair.

For the reasons given above, appellants submit that claims 9 and 14 are

patentable over Kelman and Iderosa, alone or in combination.

C. GROUND OF REJECTION 3 (CLAIMS 16 AND 18-36)

Claims 16 and 18-36 stand rejected under 35 U.S.C. §103(a) as obvious over Kelman in view of newly-cited Bermingham (US Patent No. 3,045,345). Claims 16 and 18-36 depend directly or indirectly from claims 7 and 11 and are each considered to distinguish over the cited reference, in any combination, for at least the same reasons given in support thereof. Bermingham teaches nothing to overcome the deficiencies of Kelman as described above.

Conclusion

Claims 7, 9-11, 13-16 and 18-36 are believed to patentable distinguish over Kelman, Iderosa and Bermingham, in any combination, for at least all of the above reasons. Therefore, it is respectfully requested that the Board reverse the Examiner's final rejection for those claims.

Applicants are separately arguing the patentability of claims 7, 11 and 9/14. The other pending claims are patentable by virtue of their dependency.

Respectfully submitted,

by *Paul Fenster* 41,016
Paul Fenster
Registration No. 33,877

Date: November 28, 2008

Enclosed:

Request for Oral Hearing